Challenging Times for the US Subprime Mortgage Market

AUTHOR:

Debash Chatterjee
Vice President –
Senior Analyst
(212) 553-1329
Debashish.Chatterjee@moodys.com

CONTRIBUTOR:

Joseph Snailer
Senior Vice President
(212) 553-4506
Joseph.Snailer@moodys.com

CONTACTS:

Mark DiRienz
Managing Director
(212) 553-3648
Mark.DiRienz@moodys.com

Warren Kornfeld
Managing Director
(212) 553-1932
Warren.Kornfeld@moodys.com

David Teicher
Managing Director
(212) 553-1385
David.Teicher@moodys.com

Nicolas S. Weill
Managing Director
Chief Credit Officer
(212) 553-3877
Nicolas.Weill@moodys.com

Brett Hemmerling
Investor Liaison
(212) 553-4796
Brett.Hemmerling@moodys.com

WEBSITE:
www.moodys.com

SUMMARY OPINION

Recently, the subprime residential mortgage market has been attracting considerable attention. Subprime mortgage loans originated in 2006 are experiencing more delinquencies and defaults than did loans originated during the prior few years. The steady increase in the riskiness of loans made to subprime borrowers in recent years and the recent slowing in home price appreciation have been major contributors to this weak performance.

Investors in subprime mortgage-backed securities are concerned about the rating stability and performance of their bonds. In response to the increase in the riskiness of loans made during the last few years and the changing economic environment, Moody's has steadily increased its loss expectations on pools of subprime loans. Loss expectations have risen by about 30% over the last three years. As a result, bonds issued in 2006 generally have more credit protection than bonds issued in earlier years.

In addition, issuers seeking higher Moody's ratings (rated **A** or above) design these securities to withstand losses that are materially higher than expectations, while bonds rated **Baa** and **Ba** are more susceptible to rating changes. Approximately 95% by dollar volume of Moody's-rated 2006 subprime mortgage-backed securities carry a rating of **A** or higher.

It is generally too early to predict ultimate performance for the subprime mortgage loans originated in 2006 and the bonds secured by such loans. A number of factors will determine the ultimate losses. Home price appreciation and refinancing opportunities available in the next few years are expected to have the biggest impact. Economic factors, such as interest rates and unemployment, will also play a significant role as will loss mitigation techniques employed by loan servicers.

Nevertheless, we believe that performance would need to deteriorate significantly for the vast majority of bonds rated **A** or higher to be at risk of loss. On average, for lower-rated **Baa** bonds to be at risk of loss, performance would have to continue to decline materially. The speculative, non-investment grade bonds, by their very nature, are

What are subprime loans?

They are loans made to borrowers who have weak credit histories. They are also commonly called "home equity loans" by some market players.

What is a mortgage-backed security?

A mortgage-backed security or securitization is the packaging of a collection of loans by a financial institution into a security that can be sold to bond investors. The underlying group of mortgage loans is commonly referred to as the mortgage "pool".

expected to be exposed to the risk of loss if actual performance is somewhat worse than original expectations.

This report discusses these topics in greater detail and answers questions frequently posed to Moody's.

How much has subprime mortgage performance worsened?

While performance has weakened in the subprime residential mortgage market, the truly poor performance has been largely concentrated in loans originated in 2006. Those loans are performing worse than subprime mortgage loans originated between 2002 and 2005. *Figure 1* shows that more borrowers have become seriously delinquent on 2006 subprime loans than borrowers on loans originated between 2002 and 2005.

However, the 2006 loans are, on average, performing at this early stage similarly to loans originated and securitized in 2000 and 2001 (see *Figure 2*).

Figure 1

Subprime Loans 60 or More Days Delinquent, in Foreclosure or Held for Sale

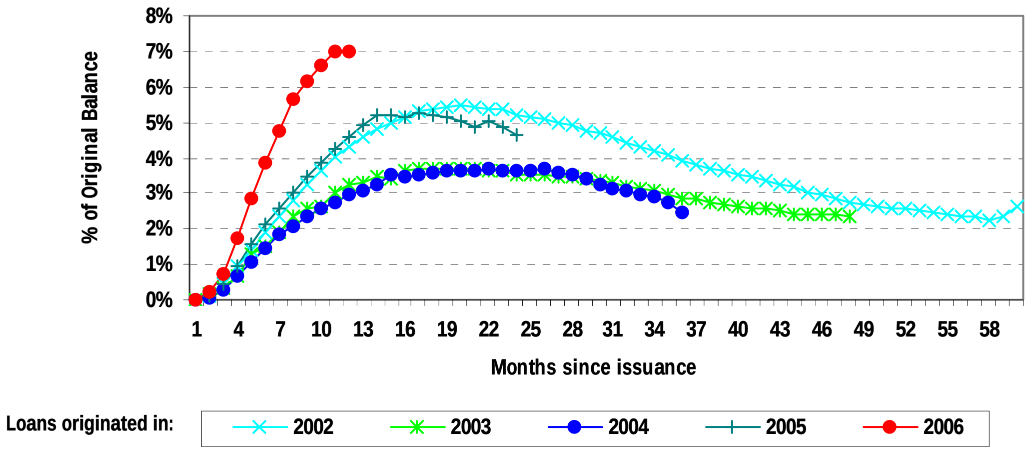
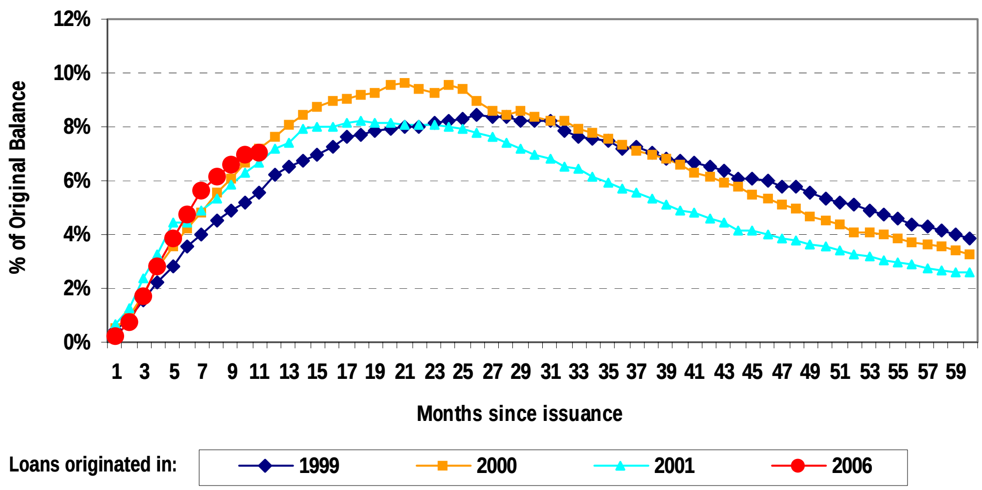


Figure 2

Subprime Loans 60 or More Days Delinquent, in Foreclosure or Held for Sale

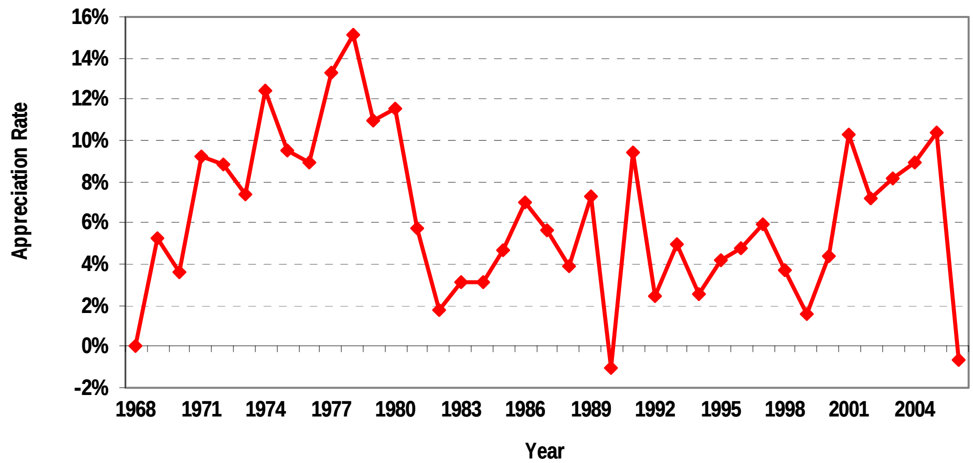


Why have 2006 loans performed worse than others?

The poor performance of 2006 subprime loans is primarily due to the recent slowdown in home price appreciation (see *Figure 3*) and the introduction of risky mortgage products over the past several years, and follows a pattern that is typically part of a residential housing "credit cycle".

Figure 3

Annual Rate of Median Home Price Appreciation



Source : National Association of Realtors

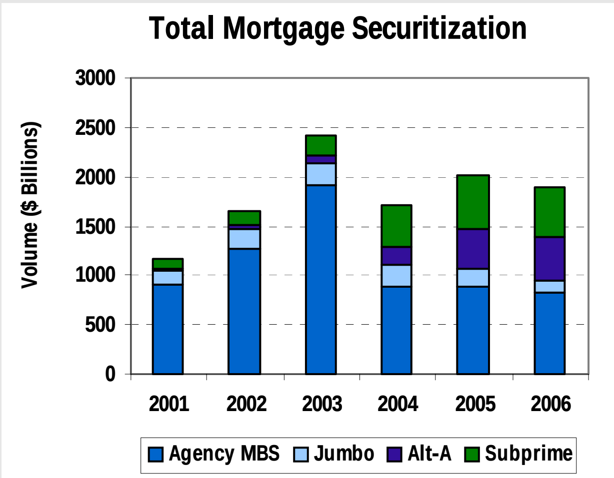
During periods of growth in the housing and mortgage markets, increased borrowing demand allows existing mortgage lenders to expand their business and new lenders to enter the market. Eventually, these trends create overcapacity in the mortgage lending market as borrowing demand slows or falls. As the lending market cools (e.g., when interest rates rise, home price increases abate, or the economy slows), competition among lenders for the reduced pool of borrowers heats up and lenders may lower credit standards (i.e., make riskier loans) in order to maintain origination volume. The riskier loans are more likely to become delinquent and default.

Lending behavior in the subprime mortgage market over the past few years has, on average, followed this pattern. Through 2005 and 2006, in an effort to maintain or increase loan volume, lenders introduced alternative mortgage loans that made it easier for borrowers to obtain a loan. Such loans include:

- Loans made for the full (or close to the full) purchase price of the home, allowing borrowers to have no equity in the home.
- Loans with less rigorous documentation such as stated documentation loans, where borrowers state their income and asset information instead of providing documented proof. Historically, these loans were primarily offered to self-employed borrowers who had difficulty documenting their income, but have increasingly been offered to wage earners as well.
- Loans that expose borrowers to sudden payment increases, such as:
  - — Loans with low initial interest rates that increase, often dramatically, after the initial fixed period is over.
  - — Interest only (IO) loans, which have lower initial monthly payments as no principal is repaid for an initial period.
- Longer tenor (40-year and longer) loans, which have lower monthly payments that are spread out over a longer period of time.

How big is the subprime mortgage securitization market?

According to the Mortgage Bankers Association, total mortgage loan origination volume in 2006 was approximately $2.5 trillion. Of this, approximately $1.9 trillion (76%) was securitized into mortgage-backed securities (MBS). Approximately 25% of total MBS was backed by subprime mortgages.



Agency MBS (43% of total MBS dollar volume in 2006): Mortgage securitizations issued by government sponsored entities like Fannie Mae and Freddie Mac (the GSEs). The GSEs buy, package and securitize loans that meet certain credit and size criteria - notably prime quality loans of less than or equal to $417,000 in 2006.

Private Label MBS (57% of total MBS dollar volume in 2006): Mortgage securitizations issued by private firms. They are generally rated by one or more rating agency.

- Jumbo (11% of Private Label MBS): Mortgage securitizations backed by high balance loans made to prime quality borrowers that typically meet all criteria laid down by the GSEs but exceed the maximum loan balance.
- Alt-A (41% of Private Label MBS): Mortgage securitizations backed by loans typically made to prime or near-prime borrowers. They may meet the balance requirements stipulated by the GSEs, but may not meet other criteria, such as documentation or occupancy requirements.
- Subprime (48% of Private Label MBS): Securitizations backed by loans made to borrowers with weak credit histories.

Often, loans have a combination of these features. For instance, a borrower could get a low initial payment, without documenting their income or assets, and put no money down. This "risk layering" has contributed to the weak performance of 2006 subprime loans. In addition, there was an increase in loans made to finance speculative investment properties.

Another factor contributing to the weak performance was an increase in certain loans to less experienced first-time home buyers. These buyers are less likely to have previously managed large debts and may not have as clear an understanding as existing home owners of the full costs of home ownership. The booming housing market, low interest rates and no-money-down mortgages encouraged many renters to purchase homes.

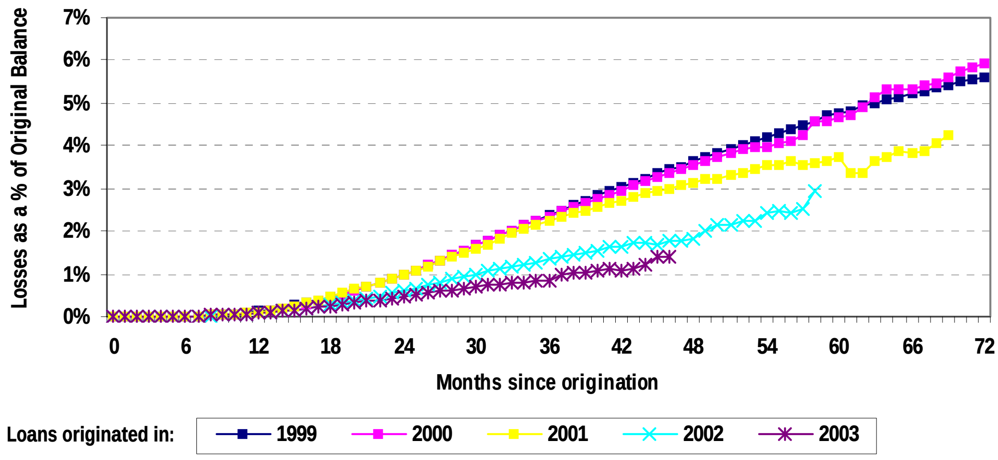
The robust rise in home prices over the past several years bolstered the performance of alternative loan products. Instead of defaulting, stressed borrowers were able to refinance or sell their homes. When home prices stopped rising, these risky loans caught up with many borrowers, resulting in higher delinquencies and defaults. Exacerbating this situation, subprime lenders, reacting to performance deterioration, tightened lending practices, further reducing refinancing options for troubled borrowers.

How weak are the 2006 subprime loans?

While the pace and extent of 2006 subprime loan performance deterioration seems to have come as a surprise to many, it is not unprecedented. In fact at this early stage, 2006 loan performance is closely tracking that of loans securitized in 2000 and 2001. The 2000 vintage loans, which experienced high initial delinquency rates, ended up with cumulative average losses in the 6% range (see *Figure 4*). While the experience of the 2000 loans provides a point of comparison, economic conditions and the mortgage lending environment are different today.

Figure 4

Cumulative Lifetime Loss



How well protected are bonds backed by 2006 subprime loans?

A major area of market concern is the rating stability and payment performance of bonds backed by 2006 subprime mortgages. Moody's-rated bonds have protection designed to withstand cumulative loan losses higher than the losses Moody's expects to see on the loan pool backing the bonds. Moody's cumulative loss expectations steadily increased in response to the increasing riskiness of subprime mortgage loans and changes in our market outlook. Specifically, Moody's loss expectations increased more than 30%, from an average of 4% to 4.5% in 2003 to an average of 5.5% to 6% today. As Moody's loss expectations have steadily increased over the past few years, the amount of loss protection on Moody's-rated bonds has also increased.

Issuers of investment grade bonds design them to withstand losses that are materially higher than original expectations. For example, Moody's **Aaa**-rated bonds issued in 2006 were structured, on average, to withstand a total loss on the underlying mortgage pool of approximately 26% to 30% without defaulting (see box for an example of a mortgage pool loss calculation). Figure 5 below shows "break-even" total loss ranges for each rating level (assuming no stepdown of credit enhancement). An individual bond's ability to absorb losses will depend not only on the underlying loan pool's performance, but also on the securitization's structure.

Calculating Mortgage Pool Losses

Mortgage bonds are backed by a collection of residential loans commonly referred to as a "mortgage pool." If the pool contains 200 mortgage loans with an average balance of $500,000, the aggregate pool balance would be $100 million.

A 10% mortgage pool loss would mean that $10 million is lost. For a mortgage pool to suffer losses of 10%, a much higher percentage of borrowers would need to default. When a borrower defaults, the lender will generally foreclose and sell the house. The sale proceeds are typically less than the amount owed by the borrower, so the lender will suffer a loss on the loan. If the average loss is 40% of the loan balance, 25% of all borrowers would need to default in order to incur $10 million in losses [that is, 40% x 25% = 10%].
Furthermore, not all delinquent borrowers ultimately default. Some will catch up on their late payments.

Figure 5

	Rating	Representative Total Pool Losses*
Investment grade bonds	**Aaa**	26%-30%
	Aa	18%-21%
	A	13%-15%
	Baa	10%-11%
Non-investment grade bonds	**Ba**	7%-8%

*Assumes no stepdown of credit enhancement

If losses on 2006 loan pools end up being somewhat higher than initial expectations, then **Ba**–rated bonds will come under downgrade pressure and some may incur losses, while **Baa**–rated bonds could come under downgrade pressure. However, for **Baa**–rated bonds to incur losses, loan performance would have to continue to decline materially. Higher-rated bonds (**Aaa**, **Aa** or **A**) have more credit protection and will be able to withstand higher loan losses than lower-rated bonds and will be less likely to experience downgrade pressure. As shown in *Figure 6*, most bonds backed by subprime mortgages rated by Moody's in 2006 have ratings in the higher **Aaa**, **Aa** or **A** categories.

Figure 6

2006 Moody's-rated Bonds Backed by Subprime Loans

Rating Level	Percentage by Dollar Volume	Percentage by Number of Bonds Rated
Aaa	80.8%	32.9%
Aa	9.6%	19.6%
A	5.0%	20.1%
Baa	3.5%	20.3%
Ba	1.1%	7.1%

What does the future hold?

It is generally too soon to tell whether ultimate losses will materially exceed our original loss expectations for 2006 securitized subprime mortgage pools. Some transactions have experienced high levels of delinquencies and loans in foreclosure that have yet to result in losses. Early delinquencies could continue to grow and lead to higher losses than originally expected, or they could stabilize. Several factors will influence ultimate losses.

The magnitude and extent of negative home price trends will have the biggest impact on future losses on subprime pools. In addition, reduced availability of credit to subprime borrowers will limit refinancing opportunities and contribute to higher losses. Economic factors such as interest rates and unemployment will also have an impact. Mortgage servicers are expected to play a major role and will need to become more proactive as greater numbers of seriously delinquent borrowers become unable to refinance. Moody's expects creative payment plans, forbearance options and loan modifications to become more prevalent.

Doc ID# SF93333